



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/054,864	04/03/1998	CRAIG R. FRINK	AO521/7145(P	3189

26643 7590 01/28/2008
PETER J. GORDON, PATENT COUNSEL
AVID TECHNOLOGY, INC.
ONE PARK WEST
TEWKSBURY, MA 01876

EXAMINER

SHANG, ANNAN Q

ART UNIT	PAPER NUMBER
----------	--------------

2623

MAIL DATE	DELIVERY MODE
-----------	---------------

01/28/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/054,864

Applicant(s)

FRINK ET AL.

Examiner

Annan Q. Shang

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5 and 19-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5 and 19-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/31/07 has been entered.

Response to Arguments

2. Applicant's arguments filed 10/31/07 have been fully considered but they are not persuasive.

With respect to the rejection of claim, 5 and 19-54 of the last office action applicant discusses the prior art of record and the claimed invention, discusses various portion of the specification not recited in the claims and further argues that the prior art of records do not meet the claims limitation, i.e., that Aoki "...does not teach using frame by frame flow control over high speed serial bus...", etc. (see page 2 of 7+ of Applicant's Remarks).

In response, Examiner disagrees. Examiner notes Applicant argues, however, Aoki discloses in col.6, lines 15-20, that "The LINK 52 reads out image data from the FIFO memory 61 on a frame-by-frame basis, packetizes the read-out image data, and output the resulting packets to the PHY 51. The PHY 51 transmits those packets via the

1394 bus 11 as isochronous packets, whereby the packets are supplied to the editor."

As noted in response to arguments in the last office action, Applicant's disclosure further states that, "When flow control is on a frame-by-frame basis, the transfer may be either of the continuous form of the isochronous form."(see page 18, line 16-17). Hence, Aoki disclosure meets the claim limitations, i.e., a host device using frame-by-frame flow control for transferring data to a video processing device over a high speed serial bus.

In response to Applicant's argues as to request/response arguments, Examiner notes Applicant's arguments, however, Examiner maintains Aoki's editor 1, issues a "play" command to the conversion device 2 for reading out video data from the HDD 4 (Col. 7, lines 42-45), and device 2, in response to the "play" command, i.e., a request for video data, transfers the requested video data defining a video frame (image data blocks) by packetizing the requested video data defining a video frame (image data blocks) over the high-speed bus with packets including video data defining the requested video frame (image data blocks), (see Col. 6, lines 10-20), which meets the "...request/response..." claim limitations.

With respect to claim 44 and claim 43, although Aoki inherently teaches the claim limitations, in that IEEE-1394 standard teaches that an arbitration sequences occurs between two nodes for any transactions, i.e., a transaction request or a transaction response. In this instant, the source node is the request node to the destination node in which the destination node receives the transaction request from the source/request node and responds to the source/request node at some time later. Each request/data packet includes a SID (fig.2), which meets the claim limitations 21, 27, 33 and 39. The

transaction request includes a packet rate field, as previously addressed. Furthermore, Examiner previously cited, IEEE-1394 Draft 8.0v2, July 7, 1995 (page 143-206, specifically page 189) to support this teaching. These requests are sent to indicate that the recipient is capable of receiving video data, which meets the claim limitations "...sufficient memory available for receiving video data..." Furthermore the requested video data is received and played back in real-time.

With respect to claims 49-52 and 54, applicant further argues that limitations of these dependent claims were never addressed in the office action. In response, Examiner disagrees, the claims limitation were discussed with respect to the rejection of claims 5 and 24 and limitations of claim 53 was discussed in claim 42 in the office action. Hence the 102(e) and 103(a) rejection is proper, meets all the claims limitations, maintained as repeated below. **This office action is made final.**

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 5-18, 21, 23-24, 27, 29-30, 33, 35-36, 39, 41 and 43-44 are rejected under 35 U.S.C. 102(e) as being anticipated by **Aoki et al (6,279,061)**.

Claims 5 and 43, Aoki disclose a host device (device 2) for transferring data to a video processing device (device 1 ; editor PC) over a high-speed serial bus using frame by frame (Fig. 1; Col. 2, lines 20-40; Col. 5, lines 38-45) control comprising:

A memory (53, 61,4);

An input 51 for receiving request packets from the video processing device (device 1 ; editor PC) over the high-speed serial bus 11, wherein each request packet indicates a request from the video processing device (device 1; editor PC; see IEEE-1394 standard in which each request/data packet of Fig. 2 includes a SID) to transfer video data defining a video frame (image data blocks; Col. 2, lines 45-60; Col. 6, lines 10-20 and Col. 7, lines 15-23), and wherein each request packet includes a stream identifier (Fig. 2 and 4; editing and playback in an MPEG digital system conforms to MPEG-2 encode data packet with MPEG transport packet PIDs and data field includes the video data); and

An output for sending 51, in response to a request packet, a plurality of data packets including the video data defining the requested video frame from the memory (53, 61,4) to the video processing device (device 1 ; editor PC) over the high speed serial bus (Col. 7, lines 40-65), wherein each data packet includes the stream identifier.

Claims 21, Aoki further discloses wherein at least one of the data packets in the plurality of data packets includes a target field indicating a device to which the video processing device is directed to transfer the video data (see Fig. 2, el. Destination_ID).

Claim 23, Aoki further discloses wherein the host device further sends through the output, a data packet including command field indicating a command to the video processing device (CTS of Asynchronous packet; Fig. 2 and 4).

Claim 24, Aoki disclose a video processing device (device 1; editor PC) for transferring data from a host device (device 2) over a high-speed serial bus using frame by frame (Fig. 1; Col. 2, lines 20-40; Col. 5, lines 38-45) control comprising: A memory (53, 61,4);

An output (not shown, from the editor PC device 1; see IEEE-1394 standard in which each request/data packet of Fig. 2 includes a SID) for sending request packets over the high-speed serial bus 11 to request to transfer of video data (Col. 2, lines 45-60; and Col. 7, lines 15-23), and wherein each request packet includes a stream identifier (Fig. 2 and 4; editing and playback in an MPEG digital system conforms to MPEG-2 encode data packet with MPEG transport packet PIDs); and

An input (not shown, editor PC device 1) for receiving a plurality of data packets from the host device (device 2) over the high speed serial bus, in response to each request packet (Col. 7, lines 40-65), wherein each data packet includes the video data defining the video frame (image data blocks; Col. 6, lines 10-20) requested by the request packet, and for transferring the video data to the memory (reads on the PC1 's receives the requested and buffered in the PC1 for editing purpose).

Claim 27, Aoki further discloses wherein at least one of the data packets in the plurality of data packets includes a target field indicating a device to which the video processing device is directed to transfer the video data (see Fig. 2, el. Destination_ID).

Claim 29, Aoki further discloses wherein the input 91 further receives a data packet including command field indicating a command to the video processing device (CTS of Asynchronous packet; Fig. 2 and 4).

Regarding method claim 30 is analyzed with respect to apparatus claim 24.

Regarding method claim 33 is analyzed with respect to apparatus claim 27.

Regarding method claim 35 is analyzed with respect to apparatus claim 29

Regarding method claim 36 is analyzed with respect to apparatus claim 5.

Regarding method claim 39 is analyzed with respect to apparatus claim 21.

Regarding method claim 41 is analyzed with respect to apparatus claim 23.

Regarding claim 44, "wherein the request packets includes a packet rate field that specifies a packet rate at which the host device is to send data to the video processing" is further inherently met by Aoki in which Aoki discloses the use of IEEE-1394 standard. Accordingly, IEEE-1394 standard inherently teaches that an arbitration sequence occurs when a node is ready to transmit a packet of information to a destination node. The source node requests its physical layer to gain control of the bus. When bus control has been obtained for an asynchronous subaction, the source node sends the following packet information: a data prefix that may contain speed information; the source and destination address; a transaction code; a transaction label; a retry code; a data quadlet or data block; a header CRC character; a data block CRC character, if applicable; and a packet termination code.

Claim 49 is analyzed with respect to apparatus claim 5.

Claims 50 and 51 are analyzed with respect to apparatus claim 24.

Claim 52 is analyzed with respect to apparatus claim 5.

Claim 54 is analyzed with respect to apparatus claim 5.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 19-20, 25-26, 31-32, 37-38, and 45-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Aoki et al. (US 6279061)** in view of **Paik et al. (US 5241382)**.

Claims 19, 45 and 47, **Aoki** discloses video data is packed into bytes into the plurality of packets because the length of the source packet of the 1394 AV/C protocol is a fixed length specific to each equipment in which each byte is defined as 8 bits, 16 bits or 32 bits, and the source packet is divided into plurality of data blocks, i.e., 1, 2, 4, or 8 data blocks, which are sequentially transmitted as a plurality of isochronous packets.

Aoki does not clearly disclose, "wherein a component of the video data has a precision greater than a byte";

Paik discloses components (Fig. 1), as macroblock, or superblock, or block, wherein each superblock 106 comprises an image area that covers four luminance blocks 108 in the horizontal direction and two luminance block 108 in the vertical

direction and each luminance blocks 108 comprise pixels (Col. 7, lines 25-31) in which block 108 has a precision greater than a byte (a component, i.e., block 108, is a portion of the data being transferred and has a precision greater than a byte because component block 108 is 64 bytes and is greater than a byte! Col. 7, lines 15-35) and wherein the data representing the component of the video data is packed into bytes in the plurality of packets (Col. 8, lines 48-51). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Aoki to encode video data, as taught by Paik, so to provide a data format that includes various data fields that enable the receiver to avoid unnecessary processing (Col. 3, lines 49-65+).

Claims 20, 46 and 48, Paik further discloses further discloses wherein the plurality of packets includes a component size field indicating a number of bits per component (DLEN, Col. 5, lines 27-28).

Claim 25, Aoki discloses video data is packed into bytes into the plurality of packets because the length of the source packet of the 1394 AV/C protocol is a fixed length specific to each equipment in which each byte is defined as 8 bits, 16 bits or 32 bits, and the source packet is divided into plurality of data blocks, i.e., 1, 2, 4, or 8 data blocks, which are sequentially transmitted as a plurality of isochronous packets.

Aoki does not clearly disclose, "wherein a component of the video data has a precision greater than a byte";

Paik discloses components (Fig. 1), as macroblock, or superblock, or block, wherein each superblock 106 comprises an image area that covers four luminance

blocks 108 in the horizontal direction and two luminance block 108 in the vertical direction and each luminance blocks 108 comprise pixels (Col. 7, lines 25-31) in which block 108 has a precision greater than a byte (a component, i.e., block 108, is a portion of the data being transferred and has a precision greater than a byte because component block 108 is 64 bytes and is greater than a byte! Col. 7, lines 15-35) and wherein the data representing the component of the video data is packed into bytes in the plurality of packets (Col. 8, lines 48-51). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Aoki to encode video data, as taught by Paik, so to provide a data format that includes various data fields that enable the receiver to avoid unnecessary processing (Col. 3, lines 49-65+).

Claim 26, Paik further discloses further discloses wherein the plurality of packets includes a component size field indicating a number of bits per component (DLEN, Col. 5, lines 27-28).

Regarding method claim 31 is analyzed with respect to apparatus claim 25.

Regarding method claim 32 is analyzed with respect to apparatus claim 26.

Regarding method claim 37 is analyzed with respect to apparatus claim 19.

Regarding method claim 38 is analyzed with respect to apparatus claim 20.

7. Claims 22, 28, 34, 40 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Aoki et al. (US 6279061)** in view of **Kurtze et al. (US 6105083)**.

Claim 22, Aoki does not clearly disclose data packet includes a boundary signal indicating whether the data packet ends with a last component of the requested video frame;

Aoki does not clearly disclose data packet includes a boundary signal indicating whether the data packet ends with a last component of the requested video frame. Kurtze discloses data packet includes a boundary signal indicating whether the data packet ends with a last component of the requested video frame (Col. 7, lines 28-55).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Aoki with the teaching of Kurtze so to allow each processing element to have a small number of storage location for storing data, such as a pair of registers, which eliminates the need for large buffers and simplifies implementation of the processing element with such flow control as a simple integration circuit, as suggested by Kurtze (Col.2, lines 25-30).

Claim 28, Aoki does not clearly disclose, "wherein a data packet in the plurality of data packets includes a boundary signal indicating whether the data packet includes a last component of the video data defining the requested video frame".

Kurtze discloses data packet includes a boundary signal indicating whether the data packet ends with a last component of the requested video frame (Col. 7, lines 28-55).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Aoki with the teaching of Kurtze so to allow each processing element to have a small number of storage location for storing data, such as a pair of registers, which eliminates the need for large buffers and simplifies

implementation of the processing element with such flow control as a simple integration circuit, as suggested by Kurtze (Col.2, lines 25-30).

Claim 34 is analyzed with respect to apparatus claim 28. Claim 40 is analyzed with respect to apparatus claim 22.

Claim 42, in view of the above analysis of claim 5, Aoki does not clearly disclose data packet includes a boundary signal indicating whether the data packet ends with a last component of the requested video frame;

Kurtze discloses data packet includes a boundary signal indicating whether the data packet ends with a last component of the requested video frame (Col. 7, lines 28-55).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Aoki with the teaching of Kurtze so to allow each processing element to have a small number of storage location for storing data, such as a pair of registers, which eliminates the need for large buffers and simplifies implementation of the processing element with such flow control as a simple integration circuit, as suggested by Kurtze (Co1.2, lines 25-30).

Claim 53 is analyzed with respect to apparatus claim 42.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

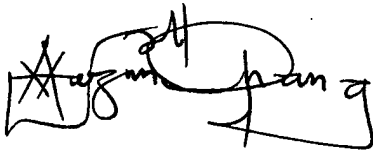
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Annan Q. Shang** whose telephone number is **571-272-7355**. The examiner can normally be reached on **700am-400pm**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Christopher S. Kelley** can be reached on **571-272-7331**. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the **Electronic Business Center (EBC)** at 866-217-9197 (toll-free). If you would like assistance from a **USPTO Customer Service Representative** or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Annan Q. Shang', with a stylized flourish at the end.

Annan Q. Shang